Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Robert L. Morgan
State Engineer

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER RIGHTS

1636 West North Temple, Suite 220
Salt Lake City, Utah 84116-3156
801-538-7240

September 18, 1991

Oil Gas & Mining
Attn: Holland Shepherd
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: Escalante Tailings Dam (Ranchers Tailing)

Dear Sir:

We have reviewed the hydrology study for the above referenced dam stabilization project. We have the following comments:

1. The 100 year flood appears acceptable from a Dam Safety aspect but what are the effects of a larger storm (up to the PMF) on the routing and drainage system. Will the ditches fail and dump all the storm water to pool on the tailings. We do not count on impermeable blankets to stop all seepage and we would hate to see any storm water seeping through the tailings towards the dam & drains.

2. Will the drains flow freely or will they eventually be capped - forcing any water seeping through the blanket to pond against the dam. If the drains are not capped will the outflow be collected.

3. We would like to see a grade control section built where the ditches bypass the dam on the abutments. This would prevent any backcutting at a critical section where it might influence the dam. We would also like to see how the flows from the interceptor ditches are to be routed down the steep abutment hills to the main channel. The interceptor trench detail depicts the trench on flat ground. What will the configuration of the trench be on the steep hillside. Will the entire trench be cut into the hill or will some of it be diked by fill material. Will the 4:1 slopes catch natural grade at a reasonable distance.

If you have any questions or comments, please call Matt Lindon or Rick Hall in our Dam Safety Section.

Sincerely,

Robert L. Morgan, P.E.
State Engineer

RLM/sh

cc: Larry A. Drew - Hecla Mining Company, Environmental Affairs
Larry Mize - Dept. of Health, Environmental Quality
Gerald Stoker - Cedar City Regional Engineer